

In its Bell South/South Carolina 271 order, the FCC concluded that Bell South had not demonstrated that it could make available, as a legal and practical matter, access to UNEs in a manner that allows carriers to combine them.³² Bell South had not demonstrated that it could provide access to elements through the single method identified by the FCC for such access, collocation. The FCC underscored the essential nature of collocation in demonstrating compliance with both Checklist Items One (interconnection) and Two (UNEs).

The FCC also expressed concern that Bell South's Statement of Generally Available Terms (SGAT) did not commit the company to any particular time-frame for implementing requests for collocation, and stated that since collocation seemed to be critical to combining unbundled network elements, unreasonable delays in provisioning collocation space would create a formidable entry barrier.³³ While the FCC did not rule on what would constitute a reasonable timeframe for implementing collocation arrangements, it did express concern with the company's failure to demonstrate that it was offering collocation in a timely manner; in fact, record evidence indicated that it was not.

The FCC further found that Bell South had failed to demonstrate that it could deliver, in a timely fashion, unbundled network elements to collocation spaces for combining. The FCC stressed that Bell South had not made a showing that there was actual commercial usage of physical collocation anywhere in its region for the purpose of recombining unbundled network elements.³⁴

History

Pacific reported that it has constructed and turned over 280 collocation cages to CLECs as of February 1998, with 143 additional cages under construction.³⁵ However, CLECs have been denied physical collection in some key offices due to a lack of space.

On January 30, 1998, Pacific sent a letter to all CLECs listing 59 central offices with no space available. Pacific later reassessed the central offices previously determined to have no space available, and found that it could create additional space in 51 previously exhausted central offices. Pacific sent a letter to CLECs on April 24, 1998, announcing the availability of collocation space and establishing a lottery process for CLECs to obtain space. CLECs objected to the lottery process as contrary to Pacific's tariff (which requires that physical collocation be on a "first come, first served" basis). Staff subsequently intervened and worked with the parties to establish a first come, first served

³² FCC, In the Matter of Application of BellSouth Corporation, et al. Pursuant to Section 271 of the Communications Act of 1934, as amended, to provide In-Region, InterLATA Services in South Carolina, ¶ 182.

³³ ¶ 202.

³⁴ ¶ 205.

³⁵ Curtis L. Hopfinger affidavit, March 31, 1998 filing, ¶46.

process, based on CLEC's original requests to collocate at particular central offices. That process is currently being implemented by Pacific.

In April 1998 Pacific provided staff with floor plans of central offices where Pacific had determined that floor space is exhausted.

Along with being denied space, CLECs raised these additional collocation concerns:

- Pacific's prohibition on collocation of Remote Switching Modules (RSMs);
- Pacific's lateness in installing collocation cages;
- prices for collocation;
- not being offered adequate alternatives to physical collocation;
- Pacific's policies of reserving space for itself or its affiliates;
- slowness in negotiating virtual collocation;
- inadequate detail on quotes for virtual collocation.

Discussion of Issues

As indicated in the FCC directives outlined above, Pacific must prove that it provides collocation space to competitors in an expeditious and nondiscriminatory manner. In order to comply with Section 251 (c)(6), Pacific must demonstrate to the CPUC that space is not available for physical collocation; providing floor plans is only one element of that process and cannot be construed to constitute Commission concurrence that space is validly unavailable. Nor has the Commission ruled on Pacific's policy of reserving space for two years for future needs. In fact, Pacific's interconnection agreements with AT&T and MCI allow for reservation of space for specific uses for periods up to one year.³⁶ At the same time, Pacific points to cases where CLECs have requested collocation cages, but have not utilized the space. Staff believes that "stockpiling" by CLECs of collocation spaces also has an adverse impact on other CLECs with immediate need for the space.

Pacific makes no showing of actual commercial usage of physical collocation to recombine network elements, as the FCC required in its Bell South/South Carolina order. Information filed in the 271 proceeding indicates that only one company, MCI, is currently using collocation to combine network elements as a test. MCI is not yet offering retail service based on the combined UNEs so this option is not yet commercially available from MCI. Therefore, Pacific cannot demonstrate that its physical collocation is being used for the combining of UNEs on a commercial basis.

Pacific made unilateral changes to its collocation policies following the filing of its draft 271 application. Many of the changes instituted (e.g., re-surveying offices with an outcome of finding additional space for collocation) are positive. However, staff believes

³⁶ Interconnection agreement between Pacific Bell and AT&T, December 19, 1996, Attachment 10, § 3.2.4 and interconnection agreement between Pacific Bell and MCI, February 3, 1997, §2.5.

the process used for implementing both virtual and physical collocation cannot be a moving target and must be clear and nondiscriminatory.

In its May 20, 1998, rebuttal filing, Pacific indicated that it was "making every effort" to deliver all past due cages by May 31, 1998.³⁷ The fact that some cage installations were, or are, past due supports CLECs' contentions that installations are not always timely. Staff believes that CLECs must be able to rely on due dates of future installations, especially since delays in cage installation can lead to additional expenses for CLECs. Northpoint indicated it had to pay for DS-3s which it ordered based on Pacific's collocation due date. However, since Pacific did not meet its due date for installing the cage, Northpoint could not use the DS-3s until the collocation was completed.

Pacific is about to begin its own deployment of DSL technology, in direct competition with several CLECs. Staff believes that the allocation of space for Pacific's own DSL equipment must be on a basis that does not favor the company over its competitors.

Hopfinger's Rebuttal Affidavit, Schedule 5, includes a copy of the "Customer Collocation Technical Publication" (Publication). Staff recognizes the benefits of this document; however, some of the provisions are internally inconsistent, or appear to conflict with the way Pacific actually applies its collocation rules. For example, the Virtual Collocation section discusses "collocator-provided equipment." However, Pacific has refused to allow MCI to provide equipment used in a virtual collocation setting. As a second example, the Co-Carrier Equipment Cross Connect or Cage to Cage section contains contradictory statements on whether collocators can interconnect with each other's collocated facilities directly, or if connections can only be done between cages licensed to the same collocator.

In addition, the Publication states that shared space collocation is only available in central offices which do not have conventional cages installed. Staff recommends examining this option for offices which have cages, but where demand for future cages may outstrip available space. Also, while the Publication indicates that Remote Switching Modules (RSMs) may be collocated, Brooks indicated that Pacific allowed them to collocate Subscriber Loop Carriers (SLCs) but would not allow collocation of RSMs. (It appears that Pacific recently changed its policy regarding collocation of RSMs because, in June 1998, after final comments were filed in this proceeding, Pacific filed amendments to its interconnection agreements with AT&T and Brooks, agreeing to the collocation of RSMs.)

Issues Selected for the Collaborative Process

Staff recommends that in the collaborative process participants should examine the following issues:

³⁷ Curtis L. Hopfinger affidavit, ¶44.

- A policy needs to be established for reservation of space in central offices.
- Pacific's rules for implementation of physical and virtual collocation are unclear and have undergone unilateral changes in recent months. The process should be clarified and made nondiscriminatory in all aspects.
- A process needs to be developed for Pacific to prove and the Commission to evaluate that space is not available for physical collocation in a particular central office.
- Pacific must prove that collocation is being used to combine UNEs for the commercial offering of service. Pacific must prove that competitors are able to use the platform to provide service.
- Pacific must also prove that competitors are able to use all methods it proposes to access and combine UNEs ordered from Pacific, since only physical collocation has been implemented to date.
- A nondiscriminatory policy should be adopted for the collocation of RSMs.
- Timetables must be set for implementation of physical and virtual collocation.

Issues Deferred to Other Proceedings

Pricing of collocation should be addressed in the Commission's generic costing proceeding rather than in the context of Pacific's 271 filing.

CHAPTER III: SECTION 271 CHECKLIST ITEMS

A. ITEM ONE – Interconnection

Has Pacific provided interconnection in accordance with the requirements of sections 251(c)(2) and 252(d)(1), and pursuant to section 271(c)(2)(B)(i)? These requirements provide for interconnection in a non-discriminatory manner that:

1. meets the same technical and service standards that Pacific provides itself and its affiliates;
2. allows interconnection at any technically feasible point;
3. offers terms and conditions that are just, reasonable and cost-based.

Pacific has not demonstrated that it provides interconnection in accordance with the above requirements.

FCC Rulings in Prior 271 Proceedings

The FCC provides guidance on this checklist item in its Ameritech/Michigan Order. The burden of proof with respect to interconnection (as with all other checklist items) rests upon the BOC. The BOC must provide evidence that the quality of interconnection it provides to other carriers is equal to that it provides to itself, and also that interconnection is provided on a nondiscriminatory basis.³⁸

The FCC finds that the BOC has an obligation to ensure that a competitor has sufficient information about its network to remedy network blockages that affect customers of both the BOC and the CLEC.³⁹ At the same time, the FCC pointed to the need for competitors to provide the BOC with improved traffic forecasts to help reduce trunk blocking rates.⁴⁰

Discussion of Issues

According to Pacific, it has provisioned approximately 122,000 interconnection trunks for CLECs in California and is providing interconnection to at least 14 facilities-based competitors. Although Pacific does provide interconnection services and elements to CLECs, this proceeding's record indicates that Pacific has experienced significant problems in providing interconnection.

In the record, CLECs document the following interconnection problems:

- provisioning of interconnection trunks by Pacific is not timely;
- loading of CLEC's newly activated NXX codes into Pacific's switches is not timely or accurate;
- lack of clear and consistent guidelines for determining if CLECs' requests for interconnection services and elements are required under the Act, and if required, the establishment of clear and consistent guidelines for use of bona fide request processes;
- lack of network traffic studies or information for the purposes of planning, forecasting and mitigating trunk blockage, and;
- Pacific's refusal to execute interconnection agreements with paging companies under Section 252 (i) of the Act.

Interconnection trunks must be provided in a timely and consistent manner for CLECs to have a meaningful opportunity to compete. A number of CLECs have asserted that

³⁸ FCC, In the Matter of Application of Ameritech Michigan Pursuant to Section 271 of the Communications Act of 1934, as amended, To Provide In-Region, InterLATA Services in Michigan, ¶ 224 and 251.

³⁹ ¶ 246

⁴⁰ ¶ 242.

Pacific does not provide interconnection trunks in a timely manner,⁴¹ which can have a negative impact on CLECs' ability to serve their customers. CLECs provided correspondence that highlights problems experienced in requesting interconnection trunks, delays in provisioning, and problems with notification and escalation. While Pacific claims to have alleviated its backlog of PacWest's orders for interconnection trunks,⁴² there is no process in place to ensure that, as competitive pressure increases, a backlog will not reoccur. Staff recommends that the trunk provisioning issue be addressed in the collaborative process.

ICG reports that Pacific had run out of ports at the tandem where ICG wanted to install additional trunks, forcing ICG to order end office trunking (a much more expensive option).⁴³ Staff believes that, in general, if CLECs provide adequate forecasts, Pacific should be able to plan to accommodate CLEC's anticipated interconnection needs.

CLECs have asserted that Pacific has not activated CLEC's NXX codes in its switches in a manner that is timely or accurate.⁴⁴ CLECs complain that customers of both CLECs and Pacific cannot complete calls to these NXX codes. CLECs assert that this process causes additional cost burdens as they do not possess that ability to test NXX activations through their own networks and must send employees to particular areas to make test calls, or rely on customer complaints about uncompleted calls from particular areas. CLECs have escalated these complaints to Pacific management and to the FCC, but with no permanent resolution. Pacific performed an audit of all MCI's NXX codes in September 1997 after MCI filed a complaint with the FCC. Pacific reported to MCI that all of its codes had been activated. Pacific states that there have been a few isolated occurrences of NXX loading problems since that time, which affected all carriers, including Pacific.⁴⁵

However, staff finds that Pacific has not introduced a process whereby NXX code activations are programmed, tested, audited and reported in a manner that is timely and nondiscriminatory for all CLECs. Further, Pacific provides no evidence that the process used to activate NXX codes for CLECs is at parity with Pacific's own code opening experiences. Staff recommends that the procedures for activation of CLEC NXX codes be addressed in the collaborative process.

CLECs assert that requests for certain services and elements, made pursuant to interconnection agreements, are not being handled in a consistent and timely manner. It is not clear from the record whether the mechanisms in place are effective and efficient in resolving interconnection request disputes. Items that CLECs report difficulty in obtaining include: Frame Relay Network to Network Interconnection, multiple points of interconnection (POIs) at tandems for network redundancies, ratcheting of trunk facilities, independent trunk testing and verification, and access specifications for Pacific facilities in

⁴¹ PacWest Response 3/31/98, and Cox Reply 4/30/98.

⁴² Pacific Bell, April 30, 1998, p. 19.

⁴³ ICG Response 3/31/98.

⁴⁴ MCI and TCG, 4/30/98 Replies.

⁴⁵ Pacific Bell, April 30, 1998, filing, p. 48.

order to expedite the design and implementation of interconnection services. Pacific responds that it is not required under the Act to provide those services.⁴⁶ Staff makes no judgment on the individual service requests, but rather finds that Pacific should have in place an expeditious and nondiscriminatory process for determining if individual services or elements are required to be provided under the Act. Staff recommends that the development of such a process be addressed in the collaborative process.

In an allied issue, Pacific points to its INER (Interconnection Network Element Request) as the process available to CLECs for requesting interconnection services and elements CLECs are entitled to under the Act but which are not covered in their ICAs. The record does not provide evidence on how often the INER process has been employed and the outcome of each request. Staff recommend reviewing the INER process in the collaborative process.

Several CLECs, including MCI and PacWest, assert that appropriate information regarding trunk blockage, call completion and other forms of network traffic studies or measurement are not being made available by Pacific. Pacific responds that it is not technically feasible to provide this data.⁴⁷ It is not clear from the record why it is not technically feasible to provide this information. It seems logical that Pacific needs equivalent information to study its own traffic patterns for network planning purposes as well as to mitigate blockage problems in its own network. Pacific should, therefore, be able to provide similar reports and/or data to CLECs. Staff recommends that the technical feasibility of providing network traffic information be addressed in the collaborative process.

Pacific alleges that forecasts provided by CLECs are inadequate and, as a result, provisioning problems have occurred. Pacific states that in some cases, timing and provisioning problems are a result of CLECs under-utilizing trunk capacity, causing a shortage in space and forcing some CLECs to wait for new facilities to be built. Staff recognizes that the requirements for CLEC forecasts are set out in the CLEC Handbook, (i.e., Chapter 18.0) and they appear to be very detailed. It is unclear, however, why, if forecasts are made in accordance with these requirements, both Pacific and CLECs are experiencing timing problems in the provisioning of interconnection trunks. Staff recommends that the requirements for CLEC forecasting and Pacific's internal procedures for utilization of those forecasts be addressed in the collaborative process.

Finally, the coalition of Cook Telecom, Inc., et. al. asserted that Pacific refused requests from paging companies to execute interconnection agreements with the same terms as Pacific's agreement with Cook, pursuant to Section 252 (i) of the Act. The paging companies are requesting the agreement for Cook Paging which includes a desired reciprocal compensation arrangement.⁴⁸ Pacific says that it has denied the agreement to similarly situated carriers on the grounds that factual circumstances have changed since the

⁴⁶ Pacific Bell, May 20, 1998, p. 39.

⁴⁷ Deere Rebuttal Affidavit, May 20, 1998, ¶ 11.

⁴⁸ D.98-03-075 which approved the Cook arbitration agreement, and Cook Reply, 4/30/98.

agreement was negotiated. Staff recommends that this issue be addressed in the collaborative process in order to address the specific reasons why Pacific is refusing requests under section 252(i) of the Act.

Issues Selected for the Collaborative Process

Staff recommends that, in the collaborative process, participants should:

- review requirements for timely provisioning of interconnection trunks including notification and escalation procedures;
- develop procedures for activation of CLEC NXX codes in Pacific's switches and a method to verify compliance;
- develop expeditious and nondiscriminatory process for determining which services or elements are required to be provided under the Act but are not covered by a particular ICA;
- develop requirements for clear and consistent INER process and determine how CLECs can effectively use the INER process.
- determine the feasibility of providing network traffic information to CLECs
- review Pacific's reasons for refusing paging companies' requests under section 252(i).

B. ITEM TWO – Unbundled Network Elements

Has Pacific provided nondiscriminatory access to Unbundled Network Elements (UNEs) in accordance with the requirements of Section 251(c)(2) and 252(d)(1), pursuant to 271(c)(2)(B)(ii), and applicable rules promulgated by the FCC?

Based on the issues outlined below, staff finds that Pacific has not met this checklist requirement.

FCC Rulings in Prior 271 Filings

In its Ameritech/Michigan order, the FCC determined that Section 251(c)(3) does not require a new entrant to construct local exchange facilities before it can use UNEs to provide a service. The FCC also said that the ILEC need not separate network elements

that the ILEC currently combines.⁴⁹ In Iowa Utilities Board vs. FCC, the Eighth Circuit initially upheld the prohibition on ILEC separation of network elements. The Court later reversed itself,⁵⁰ but left in place the requirement that a competitor not be required to construct network facilities in order to access UNEs to provide a telecommunications service.

The FCC also reported that Ameritech was involved in a series of carrier-to-carrier tests of its OSS functions for the ordering, provisioning and billing of combinations of unbundled network elements. The FCC stated that, in future applications, it expected Ameritech to present the results of OSS tests and demonstrate that new entrants are able to combine network elements to provide telecommunications services, as required by the Act. Because it saw the use of combinations as an important entry strategy, the FCC said that, in any future 271 application, it would carefully examine OSS issues relating to UNE combinations.⁵¹

In its Bell South/South Carolina order, the FCC found that entry would be hindered by Bell South's failure to offer UNEs in a manner that allows CLECs to combine them. The FCC further stated that the industry is in the process of reviewing various methods of combining elements.⁵² Pursuant to the provisions of Bell South's SGAT, a competitor must use collocation to combine network elements. The FCC further determined that Bell South had not demonstrated that it could provide collocation for combining UNEs in a timely fashion.⁵³

In the Bell South/South Carolina order, the FCC does not address the question of whether or not Bell South's proposed method of combining elements via collocation would be consistent with the Act or whether other methods of recombining must be offered. The FCC cited the Eighth Circuit ruling that a carrier could achieve the capability of providing services completely through access to the UNEs in an ILEC's network. The court concluded that a CLEC is not required to own or control any portion of its own telecommunications network before being able to purchase UNEs.⁵⁴ The FCC is presently evaluating the implications of the Eighth Circuit's determination and on June 4, 1998, held a Forum to address the issue. As of the date of this Report, no action has been taken.

The DOJ, in its evaluation of Bell South's applications in both South Carolina and Louisiana, pointed to the need for less costly methods than collocation to allow competitors access to Bell South's network to perform the work of recombining in a

⁴⁹ Ameritech /Michigan Order, ¶¶333 and 336.

⁵⁰ Iowa Utilities Board, et al, vs. FCC, United States Court of Appeals for the Eighth Circuit, October 14, 1997.

⁵¹ Ameritech /Michigan Order, ¶337.

⁵² Bell South/South Carolina Order, ¶20.

⁵³ Ibid., ¶21.

⁵⁴ ¶199.

manner which does not require the CLEC to own facilities. The DOJ indicated that collocation involves both substantial costs and significant delay.⁵⁵

In their review of the Bell South/Louisiana and Bell South/South Carolina applications, the FCC and DOJ both address the costing of UNEs. In Louisiana, both the FCC and DOJ found that the UNE prices adopted were forward-looking and compliant with the Act. In the Bell South/South Carolina case, however, the DOJ indicated that while various forward-looking methodologies are consistent with the Act, the South Carolina Commission had not articulated a forward-looking cost methodology. The DOJ found that the prices in Bell South's SGAT were drawn from several sources, with no explanation of the costs on which they were based.⁵⁶ Because of this, the DOJ found that it could not conclude that the prices for UNEs would permit firms to enter the South Carolina market and compete effectively.

The DOJ raised an additional concern in its review of the Bell South/Louisiana application. In its generic pricing docket, the Louisiana Commission had priced vertical switching features separately from the switch port. Part of the DOJ's concern was whether the Commission had properly applied pro-competitive pricing principles with regards to vertical services.⁵⁷

Discussion of Issues

There are three major issues relating to UNEs in general: (1) combining UNEs, (2) OSS for provisioning UNE combinations, and (3) pricing of UNEs. Some other issues CLECs raised will also be addressed. However, all issues relating to loops, transport, switching, directory assistance or signaling are addressed under those specific checklist items and will not be covered in this more general UNE category. OSS, which the FCC found to be a UNE, is discussed elsewhere in this report as well (i.e., Chapter II). Three issues raised by parties should be addressed in the collaborative process: (1) UNE combinations, (2) availability of ancillary equipment, and (3) issues relating to intellectual property.

1. Combinations of Network Elements. Pacific Affiant Deere submitted information on the five methods Pacific provides for access to UNEs:

- Physical collocation: cross connection POT frame in CLEC's collocation space;
- Physical collocation: cross connection to common frame in a collocation common area;
- Cross connection to CLEC UNE frame located in a common area room space, other than collocation common area, within Pacific's Central Office (CO);

⁵⁵ Evaluation of the U.S. Department of Justice, Bell South - South Carolina, November 4, 1997, p. 22.

⁵⁶ p. 41.

⁵⁷ Evaluation of the U.S. Department of Justice, Bell South - Louisiana, December 10, 1997, p. 28.

- Extension of UNEs to external area, such as a cabinet located outside the CO, provided by Pacific on Pacific's property;
- Extension of UNEs to a building not controlled by Pacific via cabling provided by the CLEC.⁵⁸

Pacific then described the cross-connection facilities by which Pacific extends its network to the point of access selected by the CLEC.⁵⁹ Cross connection is a requirement of each of the five methods.

Pacific Affiant Hopfinger presented another alternative for combining UNEs. While Pacific is not required to recombine network elements on behalf of CLECs, it voluntarily offers its Network Component Service (NCS), which is described as a discretionary offering which Pacific offers at "market based" prices.⁶⁰ The rate schedule includes the recurring and nonrecurring charges for combining a two-wire analog loop to an analog line port, with rates for other combinations subject to negotiation.

Parties commented on Pacific's five methods. MCI stated that the Missouri PSC rejected Southwestern Bell Telephone's five methods because manual cross connects will restrict substantially the number of customers who can be converted to service provided through UNE combinations. MCI referred to this as a "gating factor" which would severely limit the number of customers who could be served via UNE combinations, and described the installation of cross connects as a labor-intensive manual process.⁶¹ Both AT&T and MCI described the manual recombination of UNEs via cross connections as unreliable, with a greater potential for failure. MCI stated that the cross-connection of UNEs would require the new entrant to incur costs which the ILEC does not have to incur. MCI also described Pacific's plan to implement the five combination options as undeveloped. Pacific has provided only a high level overview, according to MCI. MCI complained that Pacific does not offer direct access to the Main Distributing Frame (MDF), or any electronic access through the "recent change" capability in Pacific's switches.

In its rebuttal testimony, AT&T proposes three possible alternatives to collocation or other remote manual recombination: 1) use of the recent change capability in Pacific's switch; 2) direct access to the central office by a third party vendor to separate and recombine elements; and 3) logical combinations using an electronic cross-connection frame. AT&T asserts that these arrangements permit the recombination of network elements and would avoid many of the costs of Pacific's requirements. In contrast to Pacific's requirements, AT&T states that many of these other arrangements do not require a CLEC to provide its own facilities in order to purchase UNEs.⁶² Pacific responds that AT&T's proposal for direct access to Pacific's CO equipment constitutes a taking and is

⁵⁸ William Deere affidavit, March 31, 1998, ¶¶ 111-115.

⁵⁹ ¶ 119.

⁶⁰ Curtis L. Hopfinger affidavit, March 31, 1998, ¶ 74.

⁶¹ MCI, April 30, 1998 filing, p. 34.

⁶² Affidavit of Robert Falcone and Gary Rall on Behalf of AT&T Communications of California, Inc., ¶ 102.

not required under the Eighth Circuit's decision. Pacific terms AT&T's request for electronic access as "unnecessary" and "unlawful."⁶³

LCI asserts that all five methods Pacific proposes to combine UNEs require the establishment of facilities, which, according to LCI, is contrary to the Eighth Circuit's ruling. Pacific responds that it has presented multiple methods of accessing UNEs and cannot be required to afford access to recombined elements. However, for those CLECs which do not want to recombine elements themselves, Pacific provides its NCS service (described above). In addition, Pacific notes that CLECs are not limited to the five methods listed; they can request others.⁶⁴ Pacific states that cross-connects are not as unreliable as AT&T asserts. Pacific sees cross connects as a "way of life" for all customers.⁶⁵

2. OSS Systems for Combining UNEs. AT&T asserts that Pacific's OSS systems cannot support large volumes of UNE combination orders. As discussed under Checklist Item Six, MCI is the only carrier to purchase UNE combinations. Moreover, those combinations were for MCI's trial of the UNE platform, not for provision of service to the general public. AT&T states that there are no ordering processes in place for most combinations.

In another OSS issue, AT&T attacks Pacific's proposed process to migrate customers from resale to the UNE platform. Pacific says it must process both disconnect and move orders for each customer.

In its Ameritech/Michigan order, the FCC stated its intent to verify whether the OSS systems for ordering and provisioning of UNE combinations were adequate. In order to determine adequate compliance, the CPUC must be able to make that determination as well. Given the fact that UNE combinations are currently being tested by only one carrier and are not ubiquitously deployed throughout Pacific's network, the current record of this proceeding does not support a determination that Pacific's OSS processes for implementing UNE combinations are adequate. (See OSS section for further information.)

3. Pricing of UNEs. A number of parties (Comptel, TCG, Sprint, AT&T, MCI) criticized Pacific's UNE pricing. Among the complaints were the interim nature of both recurring and nonrecurring charges (NRCs) for UNEs, and that the interim rates are not cost-based and therefore inconsistent with 252(d)(1). The NRCs are seen to be artificially high because they were based on manual processes and therefore are not forward looking. Also, some parties expressed concern that vertical features are priced separately and not included in the rate for the switching function.

⁶³ Pacific Bell, May 20, 1998 filing, p. 46.

⁶⁴ p. 40.

⁶⁵ p. 43.

The pricing of UNEs is expected to be addressed in the Commission's generic costing proceeding, and will not be reviewed within the scope of this 271 proceeding. It is the CPUC's position that the FCC's rules allow states to perform further unbundling of elements than was proposed by the FCC. Therefore the CPUC's decision to unbundle switch features from the basic switching function is allowable, since all the elements are priced using forward-looking costs.

4. Miscellaneous Issues. Parties raised three other significant issues relating to UNEs.

- Pacific does not allow access to dark fiber (MCI);⁶⁶
- Pacific refuses to provide ancillary equipment (amplifiers, pads, equalizers and signaling units) needed to provide service through UNEs (AT&T);
- AT&T asserts that Pacific should negotiate licenses for intellectual property rights associated with network elements on the behalf of CLECs.

Pacific's responses to the three issues listed above are:

- Pacific is not required to provide dark fiber. State commissions were given the discretion to determine if dark fiber should be included as a UNE, and the CPUC determined that it should not.
- Pacific responds that the ancillary equipment AT&T requests is not defined. AT&T can use the bona fide Request (BFR) process to obtain the equipment.
- Pacific responds that AT&T's claim of difficulty in obtaining licenses does not have any substance. AT&T has presented no evidence that it has had difficulty getting a license from any vendor. Pacific says it will assist AT&T in determining which vendors need to be contacted concerning intellectual property rights.

Issues Selected for the Collaborative Process

- Pacific must present evidence that it can provision combinations of network elements.
- Pacific must prove that the five methods it proposes for accessing UNEs are adequate for combining elements.
- Pacific must present proof that the OSS it proposes for ordering, provisioning and billing of UNE combinations can adequately accommodate a significant volume of orders in an accurate and timely manner.

⁶⁶ Dark fiber is unused transmission media in the ILEC's network.

- Parties need to develop a list of the ancillary equipment required to provision particular UNE combinations and explore the issue of how to provide CLECs access to that ancillary equipment.
- Parties need to expedite and simplify the process for CLECs to gain access to intellectual property rights.
- Parties need to explore the issue of the number of customers which can be transferred to another carrier using manual cross connects
- Staff is concerned that Pacific's options for combining UNEs are costly, slow, and may not have equivalent reliability as Pacific's retail operations. During the collaborative process, staff will explore various options, including the use of the recent change capability, that do not require competitors to own their own facilities.

C. ITEM THREE – Rights-of-Way

Has Pacific provided nondiscriminatory access to the poles, ducts, conduits, and rights-of-way owned or controlled by Pacific at just and reasonable rates in accordance with the requirements of section 224 of the Communications Act of 1934, as amended by the FTA96 pursuant to 271(c)(2)(B)(iii), and applicable rules promulgated by the FCC?

Based on staff's analysis, it appears that Pacific is meeting federal performance guidelines for this checklist item.

FCC Guidance in Prior 271 Filings

In its Michigan 271 decision, the FCC found that Ameritech "appear(ed) to satisfy" the FTA96's rights-of-way (ROW) requirement by providing nondiscriminatory access through three means: by providing access to maps and records; by employing a nondiscriminatory methodology for assigning spare capacity between competing carriers; and by ensuring comparable treatment in completing the steps for access to these items. (¶¶ 117-118.). The FCC notes that Ameritech also agreed to comply with any state requirements.

Discussion of Issues

Staff analysis indicates that, at this time, Pacific is providing nondiscriminatory access to the three necessary ROW elements outlined in the FCC's Ameritech decision: by providing access to maps and records; by employing a nondiscriminatory methodology for assigning spare capacity between competing carriers; and by ensuring comparable treatment in completing the steps for access to these items.

Further, for the issues raised by CLECs, staff found that they were either not timely, ubiquitous, or significant, or any combination of the three. In staff's opinion, the issues were either adequately refuted by Pacific, or were one-time occurrences and were therefore less significant than if they had happened repeatedly.

Staff also found that issues involving freely negotiated terms (i.e. part of an Interconnection Agreement) were not considered significant complaints because they were agreed to by both parties. Staff realizes that this may appear to contradict stated concerns in the OSS Appendix section of this Report regarding the "purported one-sided bargaining power of Pacific." Unlike the OSS Appendix situation, however, in reviewing the ROW filings, staff found that Pacific exercising undue market power in ROW negotiations did not appear to be a notable concern of CLECs.

The following list contains a number, but not all, of the ROW complaints in the record. It is meant to illustrate staff's logic in reaching the conclusion that complaints did not amount to conclusive evidence. In reviewing the record, none of the complaints appeared chronic or to have a significant impact on the CLEC's ability to meaningfully compete. Each issue documented here is accompanied by an indication of why staff did not find the issue significant, timely, and/or ubiquitous.

- MCI asserts that Pacific cannot be in compliance with checklist item 271(c)(2)(B)(iii) until the Commission has adopted rules establishing terms for ROW access. (MCI Br. p 39-41.) Staff believes that this Commission does not have to adopt detailed rules governing a particular checklist item before Pacific is allowed to prove compliance (with the obvious caveat that Pacific must comply with any future Commission rulings pertaining to this checklist item).
- MCI reports that Pacific is illegally setting aside pole attachment space for its own future use. (MCI Br. p 41-42.) Pacific responds that "the interconnection agreement arbitrated between Pacific Bell and MCI, which the CPUC approved in January 1997, expressly provides that Pacific Bell may set aside conduit space if it has conducted an engineering study and if construction is planned." (By "conduit space" staff presumes Pacific is referring to pole attachment space, pursuant to MCI's allegation. Pacific 5/20/98 filing, p 51.) Staff finds Pacific's rebuttal adequate because it rests of a previous determination by the Commission.
- Covad reports that Pacific would only offer them a non-negotiable license agreement pursuant to ROW. (Covad Resp. p 11.) Pacific denies that it refused to negotiate with Covad; and, even if they had, Covad would have had recourse through mediation or arbitration. Staff finds Pacific's rebuttal significant; CLECs do, in fact, have further recourse as indicated by Pacific. Further, because this issue -- a failure to negotiate -- was not raised by other CLECs in terms of ROW, staff did not find the complaint significant enough to impact Pacific's compliance at this time.
- CCTA claims that Pacific requires cable companies to reimburse Pacific for inspecting their construction on poles. (CCTA Br. At 20-21) Pacific responds that this complaint involves a freely negotiated agreement between Pacific and CCTA members. (Pacific

5/20/98 filing, p 52.) Staff finds Pacific's rebuttal adequate, because parties freely negotiated the agreement.

- CCTA alleges that, as a condition of attachment, Pacific requires cable companies to correct existing pole violations that they did not create. In staff's opinion, this allegation is inadequately documented by CCTA – they provide no proof that they actually had to pay for damage created by Pacific or another carrier. Because there is no evidence on the record to the contrary, staff finds Pacific's rebuttal adequate, that "the term to which CCTA refers simply requires cable companies to pay for violations created by the cable operators themselves." (Pacific 5/20/98 filing, p 52.)
- Brooks reports that it was denied property access by a building owner, and, as a remedy, Pacific would not allow access through its established access.⁶⁷ Pacific responds that this issue is pending before the CPUC in a separate proceeding, Irvine Apartment Communities (Cox representing) v. Pacific Bell (D. 98-02-020). This issue will be determined in the pending complaint case.
- AT&T alleges that Pacific places unfair restrictions on the number of cables in an interduct. (AT&T Br. p 20.) In its 5/28/98 filing, Pacific responds that this is the policy Pacific follows for its own cables and interducts. Staff therefore finds that this does not appear to be discriminatory and therefore does not appear to be a significant complaint.
- AT&T also states that Pacific fails to respond within ten days to ROW requests, per AT&T's Interconnection Agreement. (AT&T Br., p 21.) AT&T cites two specific access examples of untimely response. For the both examples, Pacific replies that the response time negotiated in the ICA is not ten days, but rather 45 days. For the first example – a March 1997 request for access to conduit on Airport Boulevard in Los Angeles -- Pacific states that the request was resolved within the required 45 days. (Pacific 5/20, p 51.) For the second example – a March 1997 request for information on conduit availability in Gardena – Pacific replies that it received no written requests from AT&T. (Pacific, May 20, 1998, filing, p 51.) For both of these examples, staff believes that the 271 process is not intended to mediate contract interpretation disputes; therefore the issues are not addressed in this 271 proceeding.
- In its Brief, AT&T reports that in June 1996, Pacific "agreed to complete 'make ready' work on a section of conduit in Los Angeles within 90 days." Because the incident happened in 1996, staff does not consider it timely and does not consider this issue further.
- Finally, AT&T reports that, during construction of the "Santa Monica Project," Pacific refused access to pole risers, necessitating that AT&T install its own. (AT&T Parks Aff. ¶¶ 20-29.) Pacific responds that the likely reason was because no space was available. In any case, Pacific has no record of AT&T filing any complaint regarding this particular situation. Staff found the incident to be a one-time occurrence, complained of by one carrier (AT&T), and that therefore the complaint does not appear significant.

⁶⁷ Brooks Brief, p. 7.

D. ITEM FOUR – Unbundled Loop

Has Pacific Bell provided access and interconnection to local loop transmission from the central office to the customer's premises, unbundled from local switching or other services?

Pacific has not demonstrated that unbundled local loops are being provided in accordance with the Act.

FCC Guidance in Prior 271 Filings

The FCC provides no specific guidance on this checklist item.

Discussion of Issues

According to Pacific, it has provided nearly 34,000 unbundled loops to CLECs in California. However, although loops are available, the record in this proceeding indicates that CLECs have experienced significant problems in obtaining unbundled loops from Pacific. Specific problems include:

- untimely and inaccurate provisioning of loops, especially those with number portability;
- lack of clear and consistent guidelines for requesting loops for other than POTS type service; and
- provisioning of IDLC or equivalent loops.

In order for CLECs to have a meaningful opportunity to compete, unbundled local loops must be provided in a timely and consistent manner. CLECs maintain that Pacific has not been timely or accurate in delivering unbundled loops.⁶⁸ Pacific has missed committed due dates and failed to notify CLECs in a timely basis that a jeopardy situation exists. This is especially problematic for CLECs when the loop cutover needs to be coordinated with installation of number portability. Otherwise, customers lose dial tone or cannot receive calls. The record does not indicate that a clear and consistent process is being utilized to coordinate loop cutovers. Pacific's rebuttal, that promised dates for provisioning have not been met because certain facilities were unavailable or damaged, is not compelling.⁶⁹ No evidence is offered that the problem of missing due dates and not providing proper notification has been mitigated. Staff recommends that the requirements for timely and coordinated provisioning and jeopardy notification procedures be explored further in the collaborative process.

⁶⁸ MCI, Nextlink, Covad and TCG 4/30/98 Reply and AT&T 3/31/98 Response.

⁶⁹ Pacific Brief, May 20, 1998, p. 56.

In an allied issue, TCG asserts that loops which have been provisioned incorrectly and are not functional become a repair issue as opposed to a provisioning issue.⁷⁰ According to TCG, it notifies Pacific of a non-functioning loop and is then referred to the repair process which requires the initiation of a trouble ticket and significant delays in solving the problem. TCG asserts that the non-functioning loop is shifted from the provisioning process to the maintenance process, which is in violation of its ICA which requires that functional loops be delivered. Staff recommends that the treatment of faulty loop provisioning be examined in the collaborative process.

CLECs complain that, with the exception of POTS service, Pacific has not made technical specifications for loops available, including the specifications for conditioning loops to have the ability for high speed data transmission.⁷¹ CLECs believe that they are therefore constrained in the ability to compete for business customers because Pacific offers those types of loops to their own retail customers. Pacific has not provided evidence that the specifications for the desired loops are not available but rather asserts that CLECs must use the INER process to request special loop types. As was mentioned in the discussion on Checklist Item One, Interconnection, the record does not provide evidence that there is a clear understanding on how to use the INER process. CLECs assert that the INER process is not effective in getting their special requests addressed by Pacific. Staff recommends that requirements for providing technical specifications for unbundled loops, as well as the INER process for requesting special types of unbundled loops be addressed in the collaborative process.

Unbundled loops that CLECs have requested include loops that are provisioned with Integrated Digital Loop Carriers (IDLCs). Pacific asserts that IDLCs cannot be separated into switch and loop elements and therefore cannot be provided on an unbundled basis to CLECs.⁷² Pacific explains that if there is an alternative method of providing service in parallel to IDLC, Pacific can move the customer to the alternative service, e.g. copper wire. If facilities are not available, CLECs will need to use the INER process.⁷³ Pacific also asserts that less than two percent of Pacific's loops are served on IDLC⁷⁴ so the problem is of minor concern. Staff recommends that the process Pacific uses to provision IDLCs should be addressed in the collaborative process.

Various CLECs have ordered XDSL capable unbundled loops from Pacific. CLECs assert that Pacific requires XDSL loops to comport with the company's specifications rather than industry standards. According to Pacific, the company must protect against interference with other services and damage to the network. This causes CLECs to have to purchase specific equipment that comports with Pacific's specifications only. MCI notes that Pacific has introduced a Spectrum Management program to prevent interference

⁷⁰ TCG Reply 4/30/98, p. 16.

⁷¹ AT&T Response, March 31, 1998, Attachment A.

⁷² Deere Rebuttal Affidavit , ¶ 44.

⁷³ ¶ 45.

⁷⁴ ¶ 44.

with other services. MCI is concerned that Pacific's Spectrum Management program may not treat all forms of DSL technology in a competitively neutral manner. Staff recommends that these issues be addressed in the collaborative process.

Issues Selected for the Collaborative Process

Staff recommends that in the collaborative process participants should:

- establish a process to ensure timely provisioning and adequate coordination of loop cutovers;
- determine how loops which are not functioning following installation should be treated;
- develop a process for CLECs to obtain technical specifications for unbundled loops, including an effective use of the INER process to request particular types of unbundled loops;
- outline requirements for how Pacific provisions IDLC and equivalent loops.
- address the implications regarding the use of Pacific's specifications, as opposed to industry standards, for XDSL loop provisioning;
- review Pacific's Spectrum Management program to determine if it is competitively neutral.

E. ITEM FIVE –Local Transport

Does the access and interconnection provided by Pacific include local transport from the trunk side of a wireline local exchange carrier switch unbundled from switching or other services in accordance with the requirements of section 271(c)(2)(B)(v) of FTA96 and applicable rules promulgated by the FCC?

Staff believes that further information is needed to evaluate Pacific's compliance with this checklist item, and therefore cannot determine at this time that Pacific has met this checklist item. The 271 collaborative process will be used to gather necessary information, as outlined below.

FCC Guidance in Prior 271 Filings

In its Ameritech decision (§ 300) the FCC determined that incumbent LECs are required to comply with the transport requirements in the Local Competition Third Reconsideration Order. Particularly, ILECs are to provide "shared transport among all end offices or tandem switches in the incumbent LEC's network (i.e., between end offices, between tandems, and between tandems and end offices)." (FCC 97-295.) The FCC also affirms

that ILECs must provide CLECs with access to the shared transport for all transmission facilities connecting ILECs' switches. (Ameritech, ¶ 306.)

Discussion of Issues

Staff found local transport issues to be definitionally arcane. Neither Pacific nor competitors clearly defined the issues, concerns and rebuttals. Because of the lack of clarity, staff requests parties to define, within the collaborative process, the scope of the checklist item itself as well as issues raised by competitors, as outlined below.

In addition to the need for general clarification, parties have identified the following local transport issues:

- MCI claims that Pacific does not make unbundled dedicated transport available. (MCI Br. p 50.) Pacific responds that this is not true. (Deere Aff. ¶ 70.)
- AT&T claims that Pacific does not cooperate in providing dedicated transport facilities to a point of access designated by CLECs. (AT&T Br. p 100-101.) Pacific refutes this claim, saying they provide the necessary cross-connects. (Deere Aff. ¶ 73.)
- AT&T states that it must pay non-cost-based access rates for the use of Special Access trunk groups for trunks that Pacific provides to CLECs outside of Pacific's service territory. (AT&T Br. p 100-101; AT&T, Johnson Aff. ¶¶44.) Pacific responds that "(t)he trunks that AT&T complains of are not ... local trunks, and therefore are not subject to the unbundling requirements of Sections 251 and 252 of the Act. Under the Act, Pacific is only required to provide interconnection for local transport, not interexchange transport for access traffic." (Pacific 5/20/98 Response, p 60.)

Issues Selected for the Collaborative Process

For the reasons indicated, staff would like to address all the issues listed above within the collaborative process.

F. ITEM SIX –Unbundled Switching

Does Pacific provide local switching unbundled from transport, local loop transmission, or other services in accordance with the requirements of Section 271(c)(2)(B)(vi) of FTA96, and applicable rules promulgated by the FCC?

Pacific has not complied with this checklist item. Unbundled switching is not commercially available. Also, competitors have encountered difficulty obtaining some switching options.

FCC Guidance in Prior 271 Filings

In its Ameritech/Michigan order, the FCC found that Ameritech constrained the ability of CLECs to provide exchange access service, and stated that new entrants, not the incumbent LEC, may assess access charges on IXCs originating or terminating toll calls using the unbundled switching element.⁷⁵ The FCC expressed concern with Ameritech's technical ability to provide usage information in a manner that allows CLECs to collect access revenues from IXCs. Ameritech had indicated that it is not technically feasible to provide either precise usage data or the identity of the originating carrier.

The FCC found that Ameritech must establish, by a preponderance of the evidence, that it provides the entire switching capability on a nondiscriminatory basis. In addition to allowing CLECs to provide exchange access service, the FCC found that Ameritech must allow the purchase of trunk ports on a shared basis and access to the routing tables resident in its switches.⁷⁶

In its review of Ameritech's 271 application, the DOJ stated its concern that Ameritech was not actually providing local switching to any competitor. The DOJ indicated that in this case, actual commercial usage is particularly important because unbundled switching requires significant network capabilities. The DOJ suggested that Ameritech should perform technical trials to prove that it can offer unbundled switching.⁷⁷

Background

Pacific offers three versions of unbundled switching:

- **Option A** – CLEC customers are served by using the unbundled network elements in a Pacific central office switch, and are switched and routed over the same local transport facilities as Pacific's customers.

⁷⁵ Ameritech/Michigan Order, ¶326.

⁷⁶ ¶331.

⁷⁷ Evaluation of the U.S. Department of Justice, Ameritech - Michigan, June 25, 1997.

- **Option B** – Option B differs from Option A because it provides customized routing of 0+, 0- and/or directory assistance calls. The difference between Options A and B is that, in Option B, the CLEC is the owner of the operator assistance/directory assistance platform. Also, Option B uses dedicated transport instead of shared transport. The ROAR variation of Option B allows a CLEC to have calls from its resale customers routed to the CLEC's operator platform. According to Pacific, as of March 1998 one CLEC has placed six orders for ROAR.
- **Option C** -- Option C allows the CLEC to custom-design its own switch-level routing scheme on an NPA-NXX basis, and therefore, it can be different for each CLEC.

Discussion of Issues

While both AT&T and MCI have discussed various unbundled switching options with Pacific, MCI appears to be the only CLEC currently purchasing unbundled switching from Pacific. According to MCI, it is using the unbundled switch ports (Option A) for technical trials of combinations of unbundled network elements. MCI is not providing service to the public using Pacific's unbundled switching. Also, according to AT&T, Pacific is not providing tandem switch recordings that allow CLECs to bill IXCs for originating and terminating traffic. According to AT&T, Pacific committed to providing those records in May - June 1998. Until then, there is no way for the CLEC to bill IXCs for switched access, as required by the FCC in its Ameritech order. We therefore conclude that Option A is not commercially available at the present time.

Pacific contends that it had six orders for ROAR as of March 1998, but staff does not have information on whether ROAR has actually been deployed and is operational. The status of ROAR deployment will be examined in the collaborative process.

AT&T and MCI have both discussed implementation of both Options B and C with Pacific. MCI went so far as to submit a service request for Option B in August 1997, which Pacific rejected as incomplete. Also, the parties dispute what needs to happen to implement Option C. The process of negotiating implementation of the two switching options is contentious and appears to be fraught with delays. The issue of what is and is not technically feasible is also an issue which parties dispute.

Parties raised two other issues:

- OSS systems for ordering switch ports are inadequate for general deployment. Orders have to be sent via fax, and Pacific requires that MCI place a phone call to Pacific's service center before Option A orders are faxed over (MCI). This OSS issue will be addressed in the context of all other OSS issues in the 271 proceeding.

- Pacific assesses access charges when CLECs use the unbundled switching element so switching is not cost-based (AT&T). The access charge issue will be determined on the basis of the final outcome of the appeal of the AT&T/Pacific Bell arbitration case. On May 11, 1998, the Northern District Court of California concluded that the CPUC improperly allowed Pacific to assess switched access charges that were not based on the cost of providing the network element.⁷⁸

Issues Selected for the Collaborative Process

- Pacific must demonstrate that unbundled switching is available as a legal and practical matter.
- Pacific must demonstrate that its OSS can accommodate a significant volume of Option A service requests.
- Pacific must demonstrate that it can provide CLECs which purchase the unbundled switching element with the necessary information to bill IXC's for originating or terminating access.
- Review Pacific's practices regarding Option B and Option C, to determine how to ensure that CLECs are able to implement in a timely manner.
- Determine if Option B ROAR has been implemented, and if it is in operation, determine how to evaluate the implementation.
- Establish technical trials for Options B and C and use those trials to verify that these switching options are available as a legal and practical matter.

G. ITEM SEVEN —Nondiscriminatory Access to 911 and E911, Directory Assistance Services, and Operator Call Completion Services.

Has Pacific provided nondiscriminatory access to the following, pursuant to 271(c)(2)(B)(vii) and applicable rules promulgated by the FCC: (a) 911 and E911 services; (b) directory assistance services to allow the other carrier's customers to obtain telephone numbers; and (c) call completion services?

Pacific has not met this checklist item, due to problems with its 911 and directory assistance services. Pacific is, however, providing nondiscriminatory access to its operator call completion service.

FCC Guidance in Prior 271 Filings

⁷⁸ AT&T Communications vs. Pacific Bell, Case No. C97-0080 SI (appeal pending).

The FCC has not addressed directory assistance or call completion issues in previous 271 decisions. Because of health and safety concerns, however, the FCC's performance standards for 911/ E911 are stringent and detailed. The FCC reaches the following conclusions regarding 911/ E911:

- An ILEC "must maintain the 911 database entries for competing LECs with the same accuracy and reliability that it maintains the database entries for its own customers" and must, in general, offer access at parity. (Ameritech, ¶ 256; also see SC Order ¶ 229.)
- For facilities-based carriers, 911 access also "includes the provision of unbundled access to (an ILEC's) 911 database and 911 interconnection, including the provision of dedicated trunks from the requesting carrier's switching facilities to the 911 control office at parity with what Ameritech provides to itself." (Ameritech, ¶ 256.)
- The FCC recognizes the immensely important health and safety issues associated with 911, and thereby validates close scrutiny of accuracy and database integrity. (¶ 261-279.)
- The ILEC must provide adequate and regular error reports to the carrier. (¶ 272.)
- In its Michigan decision, the FCC places an emphasis on prevention, stating that "preventative, rather than remedial, measures are particularly imperative." (¶ 276.)
- When the ILEC operates 911 service, a CLEC customer that calls 911 must receive the same response as a BOC customer who calls 911. (¶¶ 260, 262-64.)
- The FCC determined that, while databases need not be error-free, a BOC must show that errors are detected and remedied as quickly for entries submitted by CLECs as for its own entries. (¶ 278.)
- Although BellSouth was found to have met its 911 burden of proof, the FCC concluded that notifying carriers of errors by manual means (i.e. fax) could lead "to untimely notification or to problems with the accuracy and integrity of the 911 database." (SC Order ¶ 230.)